

I claim:

1. An expression cassette capable of directing heterologous protein expression in plant roots, comprising
 - a) nucleotides encoding MsPRP2 promoter or a fragment thereof, said promoter or fragment comprising a portion of SEQ ID NO: 1; and
 - b) nucleotides comprising a gene for a heterologous protein, operably linked to the MsPRP2 nucleotides.
2. An expression cassette capable of directing heterologous protein expression in plant roots, comprising
 - a) nucleotides encoding a promoter of MsPRP2 or a fragment thereof;
 - b) optionally nucleotides encoding a ribosomal binding site;
 - c) optionally nucleotides encoding a secretion signal; and
 - d) nucleotides encoding a heterologous protein, said protein nucleotides being operably linked to the MsPRP2 promoter nucleotides.
3. The expression cassette of claim 1 further comprising nucleotides encoding transcription factor Alfin1, the Alfin1 nucleotides being operably linked to another promoter such that the other promoter causes the transcription factor Alfin1 to be overexpressed.
4. A plant transfected with the expression cassette of claim 1, 2 or 3.
5. A plant cell culture transfected with the expression cassette of claim 1, 2, or 3.
6. A method of producing a protein recombinantly in plant cells, the method comprising:
 - a. growing plant cells which have been transfected with an expression cassette comprising:
 - i. nucleotides encoding a promoter of MsPRP2 or a fragment thereof; and
 - ii. nucleotides encoding the protein, said protein nucleotides being operably linked to the MsPRP2 promoter nucleotides; and
 - b. growing the transformed cells, during which the transformed cells produce the protein.
7. A method of producing a secreted protein from plant cells, the method comprising

- a. growing plant cells which have been transfected with an expression cassette comprising:
 - i. nucleotides encoding a promoter of MsPRP2 or a fragment thereof;
 - ii. nucleotides encoding a secretion signal which are downstream from the MsPRP2 promoter or fragment thereof; and
 - iii. nucleotides encoding the protein, said protein nucleotides being operably linked to the MsPRP2 promoter nucleotides; and
 - b. growing the transformed cells, during which the transformed cells produce the protein.
8. Seeds for plants producing a heterologous protein in its roots, the seeds comprising transgenic plant cells which have been transformed with nucleotides encoding a promoter of MsPRP2 or a fragment thereof, nucleotides encoding the protein, and optionally a plant secretion signal, the protein nucleotides being operably linked to the MsPRP2 promoter nucleotides and the secretion signal.
9. A method of bioremediating a field, the method comprising planting the transgenic seeds of claim 8 with or without the secretion signal.